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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,807	03/04/2002	Paul A. Christian	08935-255001	1600
26171	7590	06/24/2004	EXAMINER	
FISH & RICHARDSON P.C. 1425 K STREET, N.W. 11TH FLOOR WASHINGTON, DC 20005-3500			MERCADO, JULIAN A	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/086,807	Applicant(s) CHRISTIAN ET AL.	
	Examiner Julian Mercado	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 22-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21, 29-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8-8-03, 6-4-02</u> | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-21 and 29-31, drawn to the process of making, classified in class 29, subclass 623.1.
- II. Claims 22-28, drawn to the product made, classified in class 429, subclass 223.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by another materially different process such as one that employs an oxidating agent in solution.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Tu Nguyen on June 22, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-21 and 29-31.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 13, 14, 16, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruta (JP 10-284075)

Maruta teaches a nickel oxyhydroxide battery prepared by combining nickel hydroxide and a hydroxide salt such as sodium hydroxide in an inert atmosphere of oxygen and exposing the mixture to ozone for 8 hours. (Abstract) Beta-nickel hydroxide is used in the preparation and beta-nickel oxyhydroxide is the resulting product. (Abstract, par. [0018]) The mixed gas atmosphere is specifically disclosed as consisting of oxygen and ozone, thus, it is considered that the atmosphere is substantially free of carbon dioxide and water and that the resulting formed cathode is also carbonate-free. The nickel hydroxide, being in powdered form, is considered to be substantially “dry nickel hydroxide”. Cobalt is added as a bulk dopant. (par. [0011]) The electrolyte includes potassium hydroxide. (par. [0021])

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruta.

The examiner is of the position that claims 10 and 11 are inherently disclosed by Maruta. As to dioxygen, the examiner asserts that the ozonizer employed by Maruta will spontaneously decompose ozone to dioxygen and atomic oxygen, absent of a showing by applicant that the claimed invention distinguishes over the reference. As to water in the gas mixture, it is reasonably presumed that water (in the form of water vapor) will enter the mixed gas atmosphere since the mixed gas is disclosed as being carried out into a liquid water solution. (par. [0010]) *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990)

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Köhler (U.S. Pat. 5,800,947)

The teachings of Maruta are discussed above.

As to a spherical shape for the particles, while it is reasonably presumed that the particles in Maruta, being in powdered form, are substantially spherical, it would have been obvious to

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one of ordinary skill in the art to employ spherical particles in order to achieve a high packing density and resulting high capacity per unit volume. (see Köhler et al. at col. 3 line 31 et seq.)

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Yao et al. (U.S. Pat. 5,759,718)

The teachings of Maruta are discussed above.

Maruta does not explicitly teach nickel hydroxide oxyhydroxide with cobalt oxyhydroxide. However, Yao et al. teaches cobalt oxyhydroxide as an additive. (col. 4 line 45-51) Thus, the skilled artisan would find obvious to include cobalt oxyhydroxide in Maruta's invention. The motivation for such a modification would be to form an electroconductive network in the positive electrode. (*ib*)

Claims 15, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Kodama et al. (JP 2001-202956)

The teachings of Maruta are discussed above.

Maruta does not explicitly teach a hydroxide salt such as gold hydroxide. However, Kodama et al. teaches addition of gold, *inter alia*, as a trivalent metal ion to the cathode (par. [0035]) The addition of gold is preferably in hydroxide form. (par. [0022]) As to an oxidation promoting additive of "gold (+3) hydroxide", Kodama et al. teaches that the oxidation evolution potential, i.e. oxidation reaction potential is optimized by the addition of the gold hydroxide within a specified weight ratio. (par. [0024]) Thus, the skilled artisan would find obvious to add

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gold hydroxide as an oxidation promoting additive for reasons such as attaining high charging efficiency and maintaining a high-rate discharge property. (par. [0006])

Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Wang et al.

The teachings of Maruta are discussed above.

Maruta does not disclose a separator as part of the battery which is manufactured. While the examiner asserts that a separator is notoriously known as requisite part of a battery, Wang et al. is relied upon to teach a separator in a battery cell. One of ordinary skill in the art would find obvious to employ a separator in order to maintain electrical polarity between the positive and negative electrodes.

### *Conclusion*

Documents designated as "AL" and "AM" cited in the August 6, 2003 Information Disclosure Statement have not been considered by the examiner as citation of these documents without its accompanying translation, English-language abstract or statement of relevance is not in compliance with MPEP 609. Applicant is requested to provide these related documents for the examiner's consideration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam



Patrick Ryan  
Supervisory Patent Examiner  
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